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“Take the active option” to support Healthy Lungs for Life

In 2014, we were proud to launch the European Respiratory Society (ERS)/European Lung Foundation (ELF) campaign: Healthy Lungs for Life (HLfL; www.healthylungsforlife.org); a lung health campaign to educate all stakeholders about the importance of prevention and management of lung disease and how this can be achieved. Our inaugural theme, “Breathe Clean Air”, was a timely and impactful topic to kick off with and resonated across the globe with politicians in the EU, journalists in a range of countries, scientists carrying out research with funding from HLfL, the people of Munich who had their lungs tested while the ERS International Congress took place, and those who attended events held by our collaborators across the globe, from India to the USA to New Zealand.

Getting moving!

As we launch the second year of the campaign, using the ERS International Congress in Amsterdam as our platform, attention will move to the theme of physical activity and the importance of remaining active, or “taking the active option” for lung health and the health of patients with lung disease.

While it has long been recognised that sedentary behaviour is associated with increased risk of chronic diseases, such as diabetes and cardiovascular disease [1], there is now a growing body of evidence supporting the importance of regular physical activity for lung health; both for the population in general but also for people living with

chronic lung conditions. Regular physical activity has been shown to improve quality of life and fitness in healthy individuals and to reduce the risk of chronic disease [2]. Beneficial effects of regular physical activity on lung function decline and chronic obstructive pulmonary disease (COPD) risk have been reported [3].

Clearly, being physically active has many advantages for the rest of the body and organ systems, and keeping active is one of the major messages that needs to be communicated to all with regards the chronic disease agenda. Lack of physical activity has devastating effects on the health of patients with COPD, asthma, cystic fibrosis and others, and has been shown to delay the diagnosis of lung disease [4].

Although physical activity in itself can trigger dyspnoea (patients with respiratory conditions should be advised to see a doctor if they experience symptoms while exercising), physical activity should always be part of the management plan of patients with chronic respiratory conditions (as shown in the Global Initiative for Asthma (GINA) and Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines). Avoidance of physical activity and exercise is not an appropriate option [5]. COPD patients with reduced physical activity generally have more breathlessness, impaired exercise tolerance [6] and reduced health status [7]. Furthermore, lower levels of physical activity have been associated with an increased number of hospitalisations [8] and worse prognosis, as exercise tolerance is a predictor of mortality [9]. Lack of physical activity in combination with poor

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ERS 2015

nutritional habits may predispose people to obesity, which in itself complicates life for people with chronic respiratory diseases like asthma or COPD.

In specific conditions, evidence has shown the importance of staying active: physical activity can delay the onset or reduce the progression of COPD and reduce its severity [10, 11]; in cystic fibrosis, regular physical activity has been shown to have a positive impact on lung function [12]. Lack of physical activity makes lung disease more complex to treat, as those with lung disease who are inactive will become deconditioned, leading to more rapid lactate release and subsequent increased ventilatory needs. Therefore, active patients will require less breath for a given task compared to patients who are physically inactive and deconditioned.

Physical activity can be successfully increased in patients with lung disease [13]. By gradually building up exercise capacity, people with lung conditions can help improve their breathing and feel better. It is important, however, to translate the effects on the muscle of regular exercise training (typically done for a number of weeks) into a sustained more active lifestyle. It is even better to stay as active as possible to avoid additional problems related to physical inactivity. However, sometimes physical inactivity is hard to avoid. For example, when patients suffer from exacerbations of their disease, this may induce periods of inactivity and will lead inevitably to deconditioning. In that case, specific rehabilitation programmes are indicated [14].

The real message this year is that there is a level of physical activity for everyone (you and your patients), which is both possible and beneficial: run a marathon; choose to take the stairs rather than the lift or escalator; cycle to work rather than drive; walk to the next bus stop rather than the one you usually wait at! Simple steps; the right amount of exercise for you and your patients. These steps are even more fun when carried out in a social environment. As general advice, people should engage in 30 minutes of moderate intense activity daily (exercises that make you breathe more or make you slightly-to-moderately out of breath) on top of the normal daily routine. Such exercises can be done in several blocks of 10 minutes or shorter blocks in patients with more severe lung conditions [7].

Exercise and air quality

Although HLfL will focus on physical activity in 2015/2016, the previous theme is still in the forefront of our minds; while we need to keep active, we must ensure that we breathe clean air whilst doing so! In fact, there is an obvious link between physical activity and clean air. When performing physical activity, ventilation is increased. Even with moderate intensity exercise, ventilation

is doubled or tripled over resting levels, hence airways are more exposed to pollutants when exercising. This becomes clinically relevant on days where ozone or particulate matter pollution is at high levels, or when exercise is done in areas with intense air pollution. On such days or in such places, intense physical activity is not advised, particularly for patients with respiratory disease or frail lungs.

Prior to the 2015 ERS International Congress in Amsterdam, the HLfL team worked to monitor a cycling and a walking route in the city. These routes were followed by volunteers daily over a course of 4 weeks to ensure that a full picture of the air quality, based on black carbon measurements, was mapped throughout the routes on different days in different weathers. When these data were combined with the static data from monitoring sites in the city, it enabled the team to modify and alter the routes to ensure that all bad air quality hotspots could be avoided and two "Healthy Lungs for Life" routes were developed. These routes provide guidance for people cycling and walking in Amsterdam. They show people the sights of the city, providing them with an opportunity to exercise while also ensuring that the air quality is as good as it can be. The routes will be incorporated into the city tourist map for all Congress delegates and people in the city.

To engage the city with the campaign, adverts will be sited in as many places as possible, encouraging people to "take the active option". This will be complemented by activities, such as stickers in lifts, encouraging people to take the stairs, and on bus stops encouraging them to walk to the next stop. A 2-day lung health event will take place in the city centre on 26 and 27 September in dual locations: Dam Square and Beursplein. People in the city of Amsterdam will be able to come to the event and have their lung function tested, take part in physical activities and classes and learn more about how to ensure that they are being active in clean air.

A patient "meet the ERS expert" event will be held on Monday 28, September. This evening will give patients a chance to hear from ERS experts on the hottest research topics being presented at the Congress, and about this year's HLfL theme.

Across the globe

As in 2014, the 2015 activities in Amsterdam are only the beginning. All the tools, resources and materials will be available for others to hold more HLfL events across the globe. ERS will be working with its partner national societies, and ELF with its network of patient organisations to ensure that the message heard by all in Amsterdam will be echoed around the world. If you have previously taken part in World Spirometry Day, we encourage you to hold a Healthy Lungs for Life event. It

does not need to be on a specific day or at a specific time, but at some point during the year that works for you, your organisation, hospital or community. Please do come to the Healthy Lungs for Life website (www.healthylungsforlife.org), where tools and materials will be available to help you plan your event. Come and visit us at the Healthy Lungs for Life stand at the ERS Congress, which will be part of the World Village and find out more about what you can do.

If you are a healthcare provider, are you active? It has been shown that physicians engaging in regular aerobic or strength exercises are more likely to provide their patients with advice on physical activity [15]. Engaging yourself in regular physical activity may therefore not just improve your own health status and quality of life, as was shown in a study in fellows and residents in a hospital in the US [16], but it will also improve the overall health advice you offer to your patients, and perhaps even your patients' uptake of your advice. Perhaps the ERS conference is a good moment to become more active yourself, if you were not active previously. With a simple pedometer you can get an idea of your objective physical activity. These will be available from the HLfL stand in the World Village during the congress. We challenge you to pick

one up and do 10,000 steps per day. This will be an open challenge to all congress delegates set by ERS Assembly 10. You may be surprised by how (in-)active you are!

Please look at the HLfL and ELF (www.europeanlung.org) websites for help in educating your patients about the importance of exercise. In addition, in this edition of *Breathe*, there is a patient and healthcare professional perspective article on pulmonary rehabilitation and a factsheet giving top tips on being physically active in clean air that you can share with your patients. We have also developed an interactive online quiz designed to educate people with lung conditions and the general public about physical activity and clean air, which can be accessed *via* the HLfL website and ELF social media.

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Conflict of interest

P. Powell and S. Sealy are employees of the European Respiratory Society (ERS).

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